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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,350	03/30/2004	Gary A. Demos	07314-005002	7767
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FISH & RICHARDSON, PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022				
			EXAMINER	
			PHILIPPE, GIMS S	
			ART UNIT	PAPER NUMBER
			2621	
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			09/21/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/814,350	<b>Applicant(s)</b> DEMOS, GARY A.	
	<b>Examiner</b> Gims S. Philippe	<b>Art Unit</b> 2621	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on: \_\_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17 and 18 is/are allowed.
- 6) ☒ Claim(s) 1-3, 6, 7, 11 and 12 is/are rejected.
- 7) ☒ Claim(s) 4-5, 8-10, 13-16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This is a first office action in response to application no.10/814,350 filed on March 30 2004 in which claims 1-18 are presented for examination.

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, 6, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Wischermann (US Patent no. 5,519,453).

As per claim 1, Wischermann discloses a method for enhancing image quality in an image encoding system (See Abstract, col. 1, lines 38-43), including applying a median filter to horizontal pixel values of a digital video image; applying a median filter to vertical pixel values of the digital video image (col. 1, lines 38-52 and col. 2, lines 14-25); and averaging the results of the filtering of the horizontal pixels and vertical pixel values to create a noise-reduced digital video image (col. 1, lines 52-62 and col. 6, lines 13-15).

As per claim 3, Wischermann discloses a method for enhancing image quality in an image encoding system, including applying a temporal median filter to corresponding pixel values of a previous digital video image, a current digital video image, and a next digital video image to create a noise-reduced digital video image (See col. 2, lines 52-65 and col. 3, lines 51-65).

As per claim 6, Wischermann discloses a method for enhancing image quality in an image encoding system (See Abstract, col. 1, lines 38-43), including applying a horizontal median filter to horizontal pixel values of a current digital video image; applying a vertical median filter to vertical pixel values of the current digital video image (See col. 1, lines 38-52 and col. 2, lines 14-25); applying a temporal median filter to corresponding pixel values of a previous digital video image, the current digital video image, and a next digital video image; and applying a median filter to corresponding pixel values produced by each of the horizontal, vertical, and temporal filters to create a noise-reduced digital video image (See col. 2, lines 52-65 and col. 3, lines 51-65).

As per claim 7, Wischermann discloses a method for enhancing image quality in an image encoding system, including creating a noise-reduced digital video image comprising a linear weighted sum of five terms: a current digital video image; an average of horizontal and vertical medians of the current digital video image; a thresholded temporal median; an average of horizontal and vertical medians of the

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thresholded temporal median; and a median of the thresholded temporal median and horizontal and vertical medians of the current digital video image (See col. 2, lines 26-65, and col. 5, lines 3-11 and lines 26-38).

3. Claims 11 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Hong (US Patent no. 5,493,338).

As per claim 11, Hong discloses a method for enhancing image quality in an image encoding system, including: determining a motion vector for each nxn pixel region of a current digital video image with respect to at least one previous digital video image and at least one subsequent digital video image; and applying a center weighted temporal filter to each nxn pixel region of the current digital video image and corresponding motion-vector offset nxn pixel regions of the at least one previous digital video image and at least one subsequent digital video image to create a motion- compensated image (See Hong col. 7, lines 20-38, and col. 8, lines 46-62).

As per claim 12, most of the limitations of this claim have been noted in the above rejection of claim 11. In addition, Hong further discloses a method wherein each digital video image is a de-interlaced field-frame (See Hong col. 8, lines 25-46).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wischermann (US Patent no. 5519453) in view of Hong (US Patent no. 5493338).

Regarding claim 2, most of the limitations of this claim have been noted in the above rejection of claim 1.

It is noted that Wischermann is silent about applying the median filter to diagonal pixels values as specified in the claim.

However, Hong discloses a noise reduction method including the step of applying a median filter to diagonal pixel values of the digital image (See Hong col. 7, lines 5-9 and lines 47-59).

Therefore, it is considered obvious that one skilled in the art at the time of the invention would recognize the advantage of modifying Wischermann's enhancing method by incorporating Hong' step of applying a median filter to diagonal pixel values of the digital image. The motivation for performing such a modification in Wischermann is to be able to eliminate noise even in very slow motion as taught by Hong (See Hong col. 8, lines 56-62).

6. Claims 13-16, 4-5, 8-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claims 17-18 are allowed.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Sacks et al. (US Patent no. 6,111,975) teaches minimum difference processor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gims S. Philippe whose telephone number is (571) 272-7336. The examiner can normally be reached on M-F (10:30-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dastouri Mehrdad can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Gims S Philippe  
Primary Examiner  
Art Unit 2621

GSP

September 16, 2007